What is claimed is:

1. A data receiving method for data link layer of a protocol that consists of a physical layer, a data link layer, and an upper layer, the method comprising the steps of:

receiving data from the physical layer;

storing the received data in a packet buffer;

deciding whether new data has been received within a predetermined data allowable interval time since last data is received; and

based on a result of the first decision, completing receiving the data.

2. The method of claim 1, wherein if, in the decision step, the new data is not received within the data allowable interval time, receiving the data is completed, whereas if the new data is received within the data allowable interval time, the new data is stored in the packet buffer.

3. The method of claim 1, further comprising the step of:

deciding whether the data link layer is ready for receiving data prior to the data receiving step, and if the data link layer is ready, receiving the data.

4. The method according to one of claim 1 to claim 3, further comprising the steps of:

composing a packet of data stored in the packet buffer; and

transmitting the composed packet to the upper layer.

5. The method of claim 4, further comprising the step of:

after the completion of receiving the data and before composing the packet, disabling the data link layer's data reception.

6. The method of claim 5, further comprising the step of:

after a lapse of a predetermined time since the packet transmission, enabling the data link layer's data reception.

7. The method of claim 6, wherein the predetermined time is a minimum packet permitted time interval (MinPktInterval).

8. The method of claim 7, wherein the minimum packet permitted time interval (MinPktinterval) is greater than a time spent at the upper layer in receiving the packet and completing packet processing.

9. The method of claim 1, wherein the protocol is a living network control protocol (LnCP).

10. A data transferring method for data link layer, wherein the data link layer is of a protocol comprising at least a physical layer, a data link layer and an upper layer, and a network based on the protocol is used for intercommunication between at least one electric device and at least one network manager in a home network system, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, selecting a transmission

delay time (RandomDelayTime);

a second checking step for checking whether the network status is an idle status during the selected transmission delay time (RandomDelayTime); and

according to a result of the second checking step, transmitting the received packet to the physical layer.

11. The method of claim 10, wherein the first network status checking step is performed during a minimum packet permitted time interval (MinPktInterval).

12. The method of claim 10, further comprising the step of:

making a first decision regarding whether the packet is successfully transmitted.

13. The method of claim 12, further comprising the step of:

based on a result of the first decision, reportting a result of packet transmission to the upper layer.

14. The method of claim 13, wherein if, in the first decision step, the packet is successfully transmitted, the transmission result comprises a success message (SEND_OK).

15. The method of claim 12, further comprising the steps of:

if, in the second checking step, the network status is busy or if, in the first decision step, the packet is not successfully transmitted, increasing a retry count (RetryCount) for the received packet by a predetermined value;

making a first comparison between the increased retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries); and

based on a result of the first comparison, transmitting a transmission result to the upper layer.

16. The method of claim 15, wherein if, in the first comparison step, the increased retry count (RetryCount) is greater than the backoff repeat times (BackOffRetries), the transmission result comprises a failure message (SEND_FAILED).

17. The method of claim 15, wherein if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetries), performing all steps again starting from the first checking step.

18. The method according to one of claims 10 to 17, further comprising the step of:

making a second comparison between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

wherein if, in the first checking step, the network status is busy or if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetries), the second comparison step is performed.

19. The method of claim 18, further comprising the step of:

based on a result of the second comparison, transmitting a transmission result to the upper layer.

20. The method of claim 19, wherein if, in the second comparison step, the transmission execution time of the received packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failure message (SEND_FAILED).

21. The method of claim 19, wherein if, in the second comparison step, the transmission execution time of the received packet is less than the maximum transmission allowable time (MACExecTime), performing all steps again starting from the first checking step.

22. The method of claim 21, wherein the transmission delay time (RandomDelayTime) is selected within a predetermined competitive window (Wc) range, according to service priority (SvcPriority) of the received packet.

23. The method of claim 23, further comprising the step of:

before performing the first checking step again, changing the competitive window (Wc) range by a predetermined size that is set according to the service priority (SvcPriority) of the received packet.

24. The method of claim 23, wherein, to increase a transmission probability, a lower limit and/or an upper limit of the competitive window (Wc) range is reduced by the size.

25. The method of claim 24, wherein the lower limit is reduced only to a predetermined offset value.

26. The method of claim 23, wherein, to reduce a transmission collision, a lower limit and/or an upper limit of the competitive window (Wc) range is increased by the size.

27. The method of claim 26, wherein the lower limit is fixed.

28. The method according to one of claims 12 to 14, wherein the first decision step comprises the sub-step of:

comparing the transmitted packet with the received packet, and based on a result of the comparison, deciding whether the packet is successfully transmitted.

29. The method of claim 10, wherein the protocol is a living network control protocol (LnCP).

30. A data tranferring method for data link layer, wherein the data link layer is of a protocol comprising at least a physical layer, a data link layer and an upper layer, and a network based on the protocol is used for intercommunication between at least one electric device and at least one network manager in a home network system, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, transmitting the received packet to the physical layer; and

making a first decision regarding whether the packet is successfully transmitted.

31. The method of claim 30, wherein the first network status checking step is performed during a minimum packet permitted time interval (MinPktInterval).

32. The method of claim 12, further comprising the step of:

based on a result of the first decision, reportting a result of packet transmission to the upper layer.

33 The method of claim 32, wherein if, in the first decision step, the packet is successfully transmitted, the transmission result comprises a success message (SEND_OK).

34. The method of claim 30, further comprising the steps of:

if, in the first decision step, the packet is not successfully transmitted, increasing a retry count (RetryCount) for the received packet by a predetermined value;

making a first comparison between the increased retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries); and

based on a result of the first comparison, reportting a transmission result to the upper layer.

35. The method of claim 34, wherein if, in the first comparison step, the increased retry count (RetryCount) is greater than the backoff repeat times (BackOffRetries), the transmission result comprises a failure message (SEND_FAILED).

36. The method according to one of claims 30 to 35, further comprising the step of:

making a second comparison between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

wherein if, in the first checking step, the network status is busy or if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetries), the second comparison step is performed.

37. The method of claim 36, further comprising the step of:

based on a result of the second comparison, transmitting a transmission result to the upper layer.

38. The method of claim 37, wherein if, in the second comparison step, the transmission execution time of the received packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failure message (SEND_FAILED).

39. The method of claim 37, wherein if, in the second comparison step, the transmission execution time of the received packet is less than the maximum transmission allowable time (MACExecTime), performing all steps again starting from the first checking step.

40. The method of claim 30, wherein the first decision step comprises the sub-step of:

comparing the transmitted packet with the received packet, and based on a

result of the comparison, deciding whether the packet is successfully transmitted.

41. The method of claim 30, wherein the protocol is a living network control protocol (LnCP).

42. A data transferring method for data link layer, wherein the data link layer is of a protocol comprising at least a physical layer, a data link layer and an upper layer, and a network based on the protocol is used for intercommunication between at least one electric device and at least one network manager in a home network system, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, selecting a transmission delay time (RandomDelayTime) within a predetermined competitive window (Wc) range defined according to service priority SvcPriority of the received packet;

a second checking step for checking whether the network status is an idle status during the selected transmission delay time (RandomDelayTime); and

according to a result of the second checking step, transmitting the received packet to the physical layer.

43. The method of claim 42, wherein the first network status checking step is performed during a minimum packet permitted time interval (MinPktInterval).

44. The method of claim 42, further comprising the step of:

deciding whether the packet is successfully transmitted.

45. The method of claim 44, further comprising the step of:

based on a result of the decision, reportting a result of packet transmission to the upper layer.

46. The method of claim 44, wherein if the packet is successfully transmitted, the transmission result comprises a success message (SEND_OK).

47. The method according to one of claims 42 to 46, further comprising the step of:

comparing between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

wherein if, in the first checking step, the network status is busy or if, in the first decision step, the packet is not successfully transmitted, the comparison step is performed.

48. The method of claim 47, further comprising the step of:

based on a result of the comparison, transmitting a transmission result to the upper layer.

49. The method of claim 48, wherein if, in the comparison step, the transmission execution time of the received packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failure message (SEND_FAILED).

50. The method of claim 48, wherein if, in the comparison step, the transmission execution time of the received packet is less than the maximum transmission allowable time (MACExecTime), performing all steps again starting from the first checking step.

51. The method of claim 47, further comprising the step of:

before performing the first checking step again, changing the competitive window (Wc) range by a predetermined size that is set according to the service priority (SvcPriority) of the received packet.

52. The method of claim 51, wherein, to increase a transmission probability, a lower limit and/or an upper limit of the competitive window (Wc) range is reduced by the size.

53. The method of claim 52, wherein the lower limit is reduced only to a predetermined offset value.

54. The method of claim 51, wherein, to reduce a transmission collision, a lower limit and/or an upper limit of the competitive window (Wc) range is increased by the size.

55. The method of claim 54, wherein the lower limit is fixed.

56. The method according to one of claims 44 to 46, wherein the decision step comprises the sub-step of:

comparing the transmitted packet with the received packet, and based on a

result of the comparison, deciding whether the packet is successfully transmitted.

57. The method of claim 42, wherein the protocol is a living network control protocol (LnCP).